

CLAIMS

1. A silicon production reactor comprising a reaction vessel and heating means,

5 said reaction vessel comprising a vertically extending wall and a space surrounded by the wall,

 said heating means being capable of heating at least a part, including lower end portion, of the wall's surface facing the space to a temperature of not lower than the
10 melting point of silicon,

 said silicon production reactor being adapted to flow raw gas for silicon deposition from an upper part of the space of the reaction vessel toward a lower part thereof,

 characterized in that the space of the reaction vessel
15 is of slit form in cross-sectional view.

2. The silicon production reactor as claimed in claim 1, wherein the slit form has a ratio (LD/SD) of length (LD) to width (SD) of 1.5 or more.

20 3. The silicon production reactor as claimed in claim 1 or 2, wherein the width (SD) of the slit form is 0.1 m or less.

4. The silicon production reactor as claimed in any of claims 1 to 3,

wherein the vertically extending wall is constituted of a material capable of being heated by high-frequency application,

5 wherein a high-frequency generation coil is arranged around the vertically extending wall so as to enable heating the vertically extending wall.